

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 7-14 are now in the application. Claims 7, 11, and 14 have been amended.

In item 2 on page 2 of the above-identified Office action, the Examiner objected to claim 14 because of an informality.

More specifically, the Examiner states that the claim recites rotary movement of the output shaft only in the second direction while the specification discloses that the output shaft rotates in two directions.

The language in claim 14 has been clarified to recite that the output shaft only rotates and that rotation is in a first direction and a second direction opposite to the first direction of rotation.

Support for these changes may be found in the original claims and on page 2, line 31 to page 3, line 7 of the specification of the instant application.

It is accordingly believed that claim 14 now overcomes and obviates the objection raised by the Examiner.

In item 3 under Claim Rejections – 35 USC § 102 on page 2 of the above-identified Office Action, claims 7-13 have been rejected as being anticipated by Peek et al. (US 2,790,095) (hereinafter “Peek”) under 35 U.S.C. § 102(b).

The claims have been amended to more clearly recite the present invention and patentably define over the cited prior art.

Claims 7 and 14 have been amended to recite that the only movement of the output shaft is a rotary movement in first and second directions of movement with the second direction being opposite to that of the first direction.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful. Claim 7 calls for, *inter alia*, a drive device, having:

- a rotatable input shaft and a rotatable output shaft;

- a magnetic coupling connecting the input shaft and the output shaft,

- the magnetic coupling having at least two magnet pairs and **enabling a reversal in direction of rotation between the input shaft and the output shaft;**

- a blocking device disposed to limit a rotatability of the output shaft in a first direction of rotation and the blocking device being operational, and as a function of magnetic forces emanating from said magnetic coupling, to cause the output shaft to rotate in a second direction of rotation opposite to the first**

direction of rotation, the output shaft having only rotational movement in the first and second directions. (emphasis added)

Claim 7 of the instant application recites, inter alia, a rotatable input shaft and a rotatable output shaft wherein the output shaft is rotated in a second direction of rotation opposite to the first direction of rotation (of the input shaft). The only movement of the output shaft is a rotary movement. This reversal of movement occurs because of the use of a blocking device (for example, the device 10 in Fig. 2 of the instant drawings) and the correspondingly acting magnetic coupling as described on page 8, line 5 to page 9, line 34 of the instant specification.

The Peek reference discloses a device for converting a rotational movement into reciprocating movement.

According to the present claimed invention the input shaft and the output shaft are mounted to rotate. A rotational movement of the input shaft is first performed in a first direction. The output shaft has only a rotational movement. After abutment of the output shaft against the blocking device, the rotational movement is reversed and the output shaft rotates opposite to the first direction. The output shaft only has rotary movement.

Peek discloses a conversion of a rotational movement into a reciprocating movement, so that there is no drive which transfers a rotational movement into a

rotational_movement as recited in the instant claims. Peek discloses that the output shaft has a reciprocating movement as further explained hereinbelow.

The Examiner is still of the opinion that Peek anticipates the present claimed invention. Applicant respectfully disagrees with the Examiner's conclusions for the reasons discussed below.

The Examiner focuses on Peek's embodiments shown in Figs. 1 and 2 as well as Fig. 5.

Claim 7 recites a drive device, which has a rotatable input shaft and a rotatable output shaft. The claim further recites that the output shaft has only rotary movement in two directions. It is necessary for the input shaft and the output shaft of a drive device according to claim 7 to be rotatable.

The Examiner argues that Peek's embodiments in Figs. 1 and 2 show output shafts that rotate, since the blocking devices 6, 7 make this capability possible.

In the embodiment of Fig. 1, the magnetic circuit 4 is attached on a reciprocating axis. In order to avoid a rotational movement of the axis, corresponding blocking elements 6, 6' are provided. According to the *Response to Arguments* the Examiner identifies the components 6 and 6' also as a blocking device. The name per se describes the function of these devices. A blocking device blocks, which means it suppresses or limits. According to Fig. 1, a movement is suppressed, namely, a

rotational movement around the axis of the reciprocating shaft. A blocking effect of the blocking device 6, 7 occurs in the rotational movement while permitting a reciprocating motion.

If one followed the Examiner's position that the blocking device permits a rotational movement, the entire configuration could not perform a reciprocating motion, since the North and South poles of the magnetic circuits 3, 4 represent a magnetic coupling due to the magnetic forces and would rotate synchronously to one another. This would make it impossible to convert the rotational movement of the magnetic circuit 3 into a reciprocating motion of the magnetic circuit 4. Specifically, because of the blocking of a rotational movement of the magnetic circuit 4 via the blocking elements 6, 6', a reciprocating motion is inevitably executed via repelling and attractive forces between homopolar magnetic surfaces (South pole, South pole; North pole, North pole) or magnetic surfaces aligned opposite to one another (North pole, South pole). The blocking of the blocking devices 6, 6' makes the repulsion and attraction of the magnetic circuits 3, 4 possible.

The blocking devices 6, 6' block a rotational movement of the magnetic circuit 4. This is clearly described in column 1, lines 61-65 ("rotation of the mechanism to being prevented by tangential springs 6 and 6' shown diagrammatically"). Therefore, Peek teaches away from providing a rotational movement of the output shaft.

Instead, according to the embodiments of Figs. 2 and 2a, the blocking devices 7 and 7' block rotational movement. According to column 2, lines 9-10, the diaphragm 7 is

specifically designed for blocking (rotation-preventing diaphragm). According to column 4, the embodiment 7' is a plate-shaped diaphragm, which, however, has the same mode of operation as disclosed in Fig. 2. Therefore, Figs. 2, 2a clearly show that the elements 7, 7' prevent any rotational movement.

The same applies to the embodiments of Figs. 3 and 4. The mode of operation of the embodiments according to Figs. 1, 2, 2a, 3 and 4, previously was described in applicants' response dated January 7, 2009, which is incorporated herein by reference.

Furthermore, the Examiner argues the relevance of the embodiment shown in Fig. 5 of Peek. The Examiner states in the first paragraph of the Office action that the capability of the output members 2 to rotate is explicitly described in column 3, lines 29-53. Peek also ascribes a reciprocating movement to the mechanism 2. Claim 7 recites a rotatable input shaft and a rotatable output shaft and that the only movement of the output shaft is a rotary movement. Moreover, the embodiment of Fig. 5 does not show a rotatable input shaft.

The embodiments shown in Figs. 1, 2, 2a, 3 and 4 provide a mechanical movement (rotational movement) of permanent magnets with alternating North and South poles (magnetic circuit 3 or magnetic circuit 8 or magnetic circuit 12, 13) for producing a magnetic alternating field, so that a magnetically alternating field is formed which causes an attraction or rejection of an output shaft.

Thus, Figs. 1, 2, 2a, 3 and 4 provide a rotatable input shaft and an output shaft, which is blocked against rotating in order to force a **reciprocating** motion. The present claims preclude a reciprocating motion of the output shaft.

In Fig. 5, Peek shows a current supply by means of alternating current instead of producing a magnetic alternating field by mechanical movement of permanent magnets. This is described therein as an “alternating current through the winding” (column 3, lines 30-35). The construction according to Fig. 5 with the components 19, 20, 12 and 13 remains at rest, so that a rotatable output shaft is present, however, no rotatable input shaft is disclosed at all according to Fig. 5.

The disclosures of Peek either show separately exclusive arrangements wherein an input shaft is rotatable or an output shaft is rotatable to a minor extent and also reciprocates, which is distinctly different from the device recited in claim 7.

In each case, Peek does not show an input shaft and an output shaft with the input shaft and the output shaft being rotatable and the only movement of the output shaft is rotary. Since the constructions according to Figs. 1, 2, 2a, 3 and 4 each make provision for a magnetic circuit to move in order to produce an alternating field and, besides that, the construction according to Fig. 5 describes the generating of an alternating field by an alternating current, there are no suggestion to design both, the input as well as the output shaft in a rotatable manner as recited in the claims of the instant application.

The Examiner's conclusions appear to be guided by the illustration in Fig. 1 of Peek. A shaft is shown in the right part of Fig. 1. That shaft is appears mounted so as to rotate. On the one hand, this capability to rotate is not illustrated in Fig. 1. Merely a double arrow illustrates the direction of the reciprocating motion. Furthermore, the Examiner apparently interprets the springs 6, 6', which he himself describes as blocking devices, such that the latter indeed permit a rotational movement of the magnetic circuit 4 by the shaft attached thereto and their bearing (mounting).

Applicants respectfully submit that this analysis of Peek is incorrect, since the blocking devices 6, 6' specifically prevent a rotational movement of the magnetic circuit 4. If one were to remove the blocking devices 6, 6', the magnetic circuits 3, 4, would operate as a conventional magnetic coupling, wherein a rotational movement of the magnetic circuit 3 transfers a rotational movement onto the magnetic circuit 4 via magnetic forces between the magnetic poles of the magnetic circuit 3, 4. A reciprocating motion would be impossible in this case. The blocking devices 6, 6' are required in order to make it possible for the magnetic circuit 4 to move back and forth. It is only through the suppression of a rotational movement of the magnetic circuit 4 that a reciprocating motion is rendered possible.

If one followed the Examiner's arguments, the blocking elements 6, 6' would be unnecessary for a mode of operation of the construction according to Peek for converting continuous rotational movement into reciprocating motion. Accordingly, a conversion of a rotational movement into a reciprocating motion would be possible in a device according to Fig. 1 even if the blocking devices 6, 6' were omitted.

However, as explained above, this is not the case, since the omission of the blocking devices 6, 6' ensures a normal magnetic coupling which exclusively transfers a rotational movement. In that case, a reciprocating motion is not possible.

As is apparent, the blocking device 6, 6' disclosed in Fig. 1 is absolutely necessary to prevent a rotational movement of the magnetic circuit. Only by blocking a rotational movement of the magnetic circuit 4, caused by the blocking devices 6, 6', is a conversion of a rotational movement into a reciprocating motion possible.

The Examiner's view regarding the operation of blocking elements 6 and 7 and the possibility that the output shaft rotates is based solely on hindsight reconstruction after having read applicants' specification. The rotational capability of the output shaft only results from applicants' disclosure.

Regarding claim 14, applicants have revised the language to more clearly recite the rotary movement of the input and output shafts and that the output shaft only has a rotary motion in a first direction and second direction opposite to the first direction.

Peek does not show a **"a blocking device disposed to limit a rotatability of said output shaft in a first direction of rotation and said blocking device being operational, and as a function of magnetic forces emanating from said magnetic coupling, to cause said output shaft to rotate in a second direction of rotation opposite to the first direction of rotation, said output shaft having only rotational movement in the first and second directions"** as recited in claim 7 of

the instant application. Independent method claim 11 contains similar limitations.

Moreover, dependent claim 14 recites that "said output shaft when operational only rotates in a second direction of rotation opposite to the first direction of rotation" which is not disclosed in Peek.

It is accordingly believed to be clear that the Peek reference does not show or suggest the features of claim 7 or claim 11. Claims 7 and 11 are, therefore, believed to be patentable over the art. The dependent claims are believed to be patentable as well because they all are ultimately dependent on claim 7 or 11 and further with respect to claim 14 as discussed above.

In view of the foregoing, reconsideration and allowance of claims 7-14 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out. In the alternative, the entry of the amendment is requested, as it is believed to place the application in better condition for appeal, without requiring extension of the field of search.

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Reply to Office action of 3/3/09

If an extension of time is required, petition for extension is herewith made. Any extension fee associated therewith and any other fees that might be due with respect to Sections 1.16 and 1.17 should be charged to Deposit Account Number 12-1099 of Lerner Greenberg Stermer LLP.

Respectfully submitted,

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FDP/bb

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